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27765 7590 05/05/2008 NORTH AMERICA INTELLECTUAL PROPERTY CORPORATION P.O. BOX 506 MERRIFIELD, VA 22116				
EXAMINER PENDLETON, DIONNE				
ART UNIT 2627		PAPER NUMBER		
NOTIFICATION DATE 05/05/2008		DELIVERY MODE ELECTRONIC		

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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### Office Action Summary

**Application No.**

10/711,836

**Applicant(s)**

SUN ET AL.

**Examiner**

DIONNE H. PENDLETON

**Art Unit**

2627

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 29 January 2008.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-19 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-19 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-946)
- 3) ☐ Information Disclosure Statement(s) (PTO/SG/US)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_

## DETAILED ACTION

### *Claim Rejections - 35 USC § 112*

1. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

**Claims 6, 15 and 19** are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention.

Specifically, paragraph 24 of the Applicant's disclosure teaches that the OPC process is performed in an OPC section of the disc but also teaches that the OPC process can be performed in any section of the optical disc. The Applicant's specification, however, fails to specifically identify the location on the optical disc, considered by the Applicant to be an area originally dedicated to performing the OPC. Therefore, the recited data area "not originally dedicated to performing the OPC", in claims 6 and 15, is not enabled. There is no explanation of the particular location of the "not originally dedicated " OPC area on an optical disc. Hence, one of ordinary skill in the art would require undue experimentation to make or use the invention.

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

**Claims 6, 15 and 19** are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

The applicant's claim recites performing the OPC using a "not originally dedicated " OPC area. However, this recitation fails to distinctly claim the invention since any area in which the OPC process is performed, would be fairly deemed an area dedicated to performing OPC.

***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. **Claims 1, 4-10, 13, 15 and 17-19** are rejected under 35 U.S.C. 102(b) as being anticipated by **KENJO (US 5,029,155)**.

**Regarding claims 1 and 10,**

Kenjo teaches a method of calibration and an automatic light emitting device having a light emitting device ("**4**" in figure 2) and a photo monitor ("**5**" in figure 2), comprising:

controlling power of the light emitting device by changing values of a drive signal  
**(see “power level directing value” in column 5:21-24)** to the light emitting device,

converting received monitor signal values **(see input to sample & hold circuit “27”)** for a plurality of drive signals to corresponding powers of the light emitting device according to a predetermined conversion rule **(column 5:17-24 and 49-53 discloses that from the monitor signal, the power control circuit “25” determines whether or not the actual power level is identical to the objective power level; calculation circuit “28” converts the output from the monitor circuit to an equivalent drive signal value (see “directing value”) and further teaches that each drive signal value corresponds to an actual power level (see Table 4; also see column 5:49-53 which implies that the input to the sample and hold circuit is converted into a value indicative of actual power level); with respect to performing the conversion for a plurality of drive signals, Kenjo teaches that the method is performed for a plurality of individual tracks on the optical medium):** and

determining a preliminary power relationship relating values of the drive signal to powers of the light emitting device according to received monitor signal values for a plurality of drive signal values **(see column 5, lines 21-65).**

and a predetermined conversion rule **(see column 5, lines 21-65).**

**Regarding claims 4 and 13,**

Kenjo teaches the method and device of claims 1 and 10, respectively, further comprising generating a final power relationship by performing a power relationship correction operation on an optical medium of the optical device; the power relationship correction operation comprising the following steps: writing test data to the optical medium of the optical device using a particular drive signal value for a predetermined power value according to the preliminary power relationship; reading a read signal corresponding to the test data from the optical medium; and analyzing the read signal to determine if the test data was written to the optical medium at the particular power and correspondingly adjusting the preliminary power relationship such that the test data is written to the optical medium at the predetermined power to thereby generate the final power relationship (*column 5, lines 49-65*).

**Regarding claim 5,**

Kenjo teaches the method of claim 4, wherein the power relationship correction operation involves performing an optimum power control (OPC) on the optical medium of the optical device.

**Regarding claims 6 and 15,**

As best understood with regard to the USC 112 first and second paragraph rejections above, Kenjo teaches that performing OPC at the beginning of each track on the optical recording medium, thereby anticipating the applicant's limitation that the OPC is performed in a data area not originally dedicated to performing the OPC.

**Regarding claim 7,**

Kenjo teaches the method of auto-calibration recited in claim 4, further comprising a non-volatile memory ***("28" in figure 1)*** for storing the final power relationship determined by the microprocessor during the calibration mode, the final power relationship being used by the microprocessor during normal operations for controlling values of the drive signal according to desired powers of the light emitting device ***(column 5, lines 32-39)***.

**Regarding claims 8 and 17,**

Kenjo teaches the method and device of claims 1 and 10, respectively, wherein the optical device is an optical disc drive or a optical disc recorder, the photo monitor is a front monitor diode (FMD), and the light emitting device is a laser diode ***(column 3, lines 23-25 teaches that the photo detector "5" is mounted in a housing together with the laser diode "4", see figure 2)***.

**Regarding claims 9 and 18,**

Kenjo teaches the method and device of claims 8 and 17, respectively, being capable of calibrating the write power or the read power of the laser diode.

**Regarding claim 19,**

Kenjo teaches a method of calibration and an automatic light emitting device having a light emitting device ***("4" in figure 2)*** and a photo monitor ***("5" in figure 2)***, comprising:

controlling power of the light emitting device by changing values of a drive signal **(see “power level directing value” in column 5:21-24)** to the light emitting device,

converting received monitor signal values **(see input to sample & hold circuit “27”)** for a plurality of drive signals to corresponding powers of the light emitting device according to a predetermined conversion rule **(column 5:17-24 and 49-53 discloses that from the monitor signal, the power control circuit “25” determines whether or not the actual power level is identical to the objective power level; calculation circuit “28” converts the output from the monitor circuit to an equivalent drive signal value (see “directing value”) and further teaches that each drive signal value corresponds to an actual power level (see Table 4; also see column 5:49-53 which implies that the input to the sample and hold circuit is converted into a value indicative of actual power level); with respect to performing the conversion for a plurality of drive signals, Kenjo teaches that the method is performed for a plurality of individual tracks on the optical medium):** and

determining a preliminary power relationship relating values of the drive signal to powers of the light emitting device according to received monitor signal values for a plurality of drive signal values **(see column 5, lines 21-65).**

and a predetermined conversion rule **(see column 5, lines 21-65).**

And as best understood with regard to the USC 112 first and second paragraph rejections above, Kenjo teaches that performing OPC at the beginning of each track on



the optical recording medium, thereby anticipating the applicant's limitation that the OPC is performed in a data area not originally dedicated to performing the OPC.

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. **Claims 2, 3, 11, 12, 14 and 16** are rejected under 35 U.S.C. 103(a) as being unpatentable over **KENJO (US 5,029,155)** in view of **CALL (US 5,640,381)**.

**Regarding claims 2 and 11,**

Kenjo teaches the method and device of claims 1 and 10, respectively.

Kenjo fails to teach determining an offset value and converting the received monitor signal values according to the offset value as claimed.

Call teaches determining an offset value being a maximum value of the drive signal where the light emitting device does not emit light according to the received monitor signal values (**column 11:35-46; also step "218" in Figure 9**);

and converting the received monitor signal values corresponding to drive signal values being higher than the offset value to power values according to the predetermined conversion rule to thereby generate the preliminary power relationship

***(steps “224”-“226” in Figure 9 wherein a plurality of laser generated emissions are analyzed (226) for the purpose of identifying the optimal power level).***

It would have been obvious for one of ordinary skill in the art at the time of the invention to combine the teachings of Kenjo and Call, further calculating the threshold current for each sector in which OPC is performed, for the purpose of more accurately calibrating laser intensities to a desired laser power.

**Regarding claims 3 and 12.**

Call teaches the method and device of claims 2 and 11, respectively, wherein determining the preliminary power relationship relating the values of the drive signal to the powers of the light emitting device further comprises the following steps:

controlling the power of the light emitting device by utilizing a first drive signal value and a second drive signal value (***column 11, lines 35-37***);

extrapolating monitor signal values of a line formed between a first received value of the monitor signal corresponding to the first drive signal value, and a second received value of the monitor signal corresponding to the second drive signal value (***step “218” in figure 9***);

determining the offset value of the drive signal to be a crossing value of the drive signal corresponding to where the extrapolated monitor signal values of the line cross a predetermined value of the monitor signal when the light emitting device is not emitting any light (***also in step “218” in figure ; and see column 11, lines 37-46***);

and converting the extrapolated monitor signal values of the line corresponding to drive signal values being higher than the offset value to power values according to the predetermined conversion rule to thereby generate the preliminary power relationship (**steps “219” through “227” in figure 9**).

**Regarding claim 14,**

Call teaches the auto-calibrating optical device of claim 11, wherein the power relationship correction operation involves the microprocessor performing an optimum power control (OPC) on the optical medium of the optical device.

**Regarding claim 16,**

Call teaches the device of claim 11, further comprising a non-volatile memory (**“83” and “84” in figure 4**) for storing the final power relationship determined by the microprocessor during the calibration mode, the final power relationship being used by the microprocessor during normal operations for controlling values of the drive signal according to desired powers of the light emitting device (**column 7, lines 2-4**).

***Response to Arguments***

5. Applicant's arguments filed 1/29/2008 have been fully considered but they are not persuasive.
6. Applicant argues that **Kenjo Fails To Teach Converting The Output Of The Monitoring Circuit To Corresponding Powers According To A Predetermined Conversion Rule:**

In **column 5:1-65**, Kenjo teaches a number of conversions applied to the output of the monitoring circuit "22" eventually resulting in an effective comparison between an actual power value and a target power value.

In **column 5:21-29**, Kenjo teaches that the output of the monitoring circuit is converted to a digital signal in A/D circuit "30" resulting in a drive signal value used for adjustment steps.

See **Table 4**, which is further discussed in **column 5:32-39**, wherein Kenjo teaches that drive signal values are constantly updated so as to accurately correspond to power level values (the use of conversion rule for calculating accurate correspondence between drive signal and power level is inherent). In converting the monitor signal value of circuit "22" to a drive signal value, Kenjo effectively converts the monitor signal value to an equivalent power level value which is adjusted such that it accurately reflects the target power level value, i.e., conversion to drive signal value equates to a conversion to the corresponding power level value. Accordingly, the Examiner's rejection is maintained.

***Conclusion***

7. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Dionne H. Pendleton whose telephone number is 571-272-7497. The examiner can normally be reached on 10:30-7:00 M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Wayne Young can be reached on 571-272-7582. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Thang V. Tran/  
Primary Examiner, Art Unit 2627

D. Pendleton